



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Gorenstein, et al.  
Serial No.: 10/828,935  
Filed: 4/21/2004  
Title: Bead Bound Combinatorial Oligonucleoside  
Phosphorothioate and Phosphorodithioate  
Aptamer Libraries  
Attorney File No.: UTMB:1024

Group Art Unit:

Examiner:

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**1<sup>ST</sup> SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Dear Sir:

This First Supplemental Information Disclosure Statement is submitted:

- ☒ under 37 CFR 1.97(b), or (Within three months of filing national application; or date of entry of international application; or before mailing date of first office action on the merits; whichever occurs last)
- ☐ under 37 CFR 1.97(c) together with either a:
- ☐ Statement under 37 CFR 1.97(e), or
  - ☐ a \$180.00 fee under 37 CFR 1.17(p), or
- (After the CFR 1.97(b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97(d) together with a:
- ☐ Statement under 37 CFR 1.97(e), and
  - ☐ a \$180.00 fee set forth in 37 CFR 1.17(p).
- (Filed after final action or notice of allowance, whichever occurs first, but before payment of the issue fee)

☒ Applicant(s) submit herewith Form PTO 1449-Information Disclosure Citation together with copies, of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

The relevance of the attached references is that this is the closest art of which Applicant is aware. Applicant submits that the above references taken alone or in combination neither anticipate nor render obvious the present invention. Consideration of the foregoing in relation to this application is respectfully requested.

It is requested that the information disclosed herein be made of record in this application.

I hereby certify that this Correspondence is being deposited with the United States Postal service with sufficient postage for first class mail in an envelope address to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or the correspondence is being facsimile transmitted to the USPTO, on the date indicated below.

Date of Deposit: July 16, 2004  
Typed Name: Edwin Flores

Signature: Edwin Flores

Respectfully submitted,

Edwin Flores

Edwin Flores  
Attorney/Agent for Applicant(s)  
Reg. No. 38,453

Date: July 16, 2004  
Telephone No.: (214) 866-0001



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Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	10/828,935
Filing Date	04/21/2004
First Named Inventor	Gorenstein et al.
Art Unit	
Examiner Name	
Attorney Docket Number	UTMB:1024

Sheet

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of

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**U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
		US-			
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**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				
		WO 00 47774 A1	08/17/2000	Janjic, et al.		
		WO 92 14842 A	09/03/1992	Toole, et al.		
		WO 92 14843	09/03/1992	Toole, et al.		
		WO 93 08296 A	04/29/1993	Hoke, et al.		
		WO 96 19572 A	06/27/1996	Hybridon		
		WO 96 41019 A1	08/17/2000	Janjic, et al.		
		WO 99 31275	06/24/1999	Gold, et al.		

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Substitute for form 1449B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)			<b>Complete if Known</b>		
			Application Number	10/828,935	
			Filing Date	04/21/2004	
			First Named Inventor	Gorenstein et al.	
			Art Unit		
			Examiner Name		
Sheet	2	of	2	Attorney Docket Number	UTMB:1024

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		ANTSYPVICH, ET AL. (1998) Cross-linked DNA duplexes: Exonuclease stability and interaction with the nucleic transcription factor of the $\kappa$ light-chain enhancer (NF- $\kappa$ B).	
		BIELINSKA, ET AL. (1990) Regulation of Gene Expression with Double-Stranded Phosphorothioate Oligonucleotides, <i>Science</i> , Vol. 250, pg. 997-1000.	
		KHALED, ET AL. (1998) Use of Phosphorothioate-Modified Oligodeoxynucleotides to inhibit NF- $\kappa$ B Expression and Lymphocyte Function, <i>Clinical Immunology and Immunopathology</i> , Vol. 86, No. 2, pp. 170-179.	
		KING, ET AL., (1998) Novel Combinatorial Selection of Phosphorothioate Oligonucleotide Aptamers. <i>Biochemistry</i> , 37, 16489-16493.	
		KUNSCH, ET AL. (1992) Selection of Optimal $\kappa$ B/Rel DNA-Binding Motifs: Interaction of Both Subunits of NF- $\kappa$ B with DNA is Required for Transcriptional Activation, <i>Molecular and Cellular Biology</i> , October 1992, Vol. 12, No. 10, p. 4412-4421.	
		LEBRUSKA, ET AL. (1999) Selection and Characterization of an RNA Decoy for Transcription Factor NF- $\kappa$ B <sup>+</sup> , <i>Biochemistry</i> , 38, 3168-3174.	
		MORISHITA, ET AL. (1997) In vivo transfection of cis element "decoy" against nuclear factor- $\kappa$ B binding site prevents myocardial infarction, <i>Nature Medicine</i> , Vol. 3, No. 8, p. 894-899.	
		NAKAMAYE, ET AL. (1988) Direct sequencing of polymerase chain reaction amplified DNA fragments through the incorporation of deoxynucleoside $\alpha$ -thiotriphosphates, <i>Nucleic Acids Research</i> , Vol. 16, No. 21.	
		SHARMA, ET AL. (1996) Transcription Factor Decoy Approach to Decipher the Role of NF- $\kappa$ B in Oncogenesis, <i>Anticancer Research</i> , 16:61-70.	
		STEC, ET AL. (1997) Deoxyribonucleoside 3'-O-(2-Thio- and 2-Oxo-"spiro"-4,4-pentamethylene-1,3,2-oxathiaphospholane)s: Monomers for Stereocontrolled Synthesis of Oligo(deoxyribonucleoside phosphorothioate)s and Chimeric PS/PO Oligonucleotides <sup>5</sup> , <i>J. Am. Chem. Soc.</i> , 120, 7156-7167.	
		UHLMANN, ET AL. (1997) Studies on the Mechanism of Stabilization of Partially Phosphorothioated Oligonucleotides Against Nucleolytic Degradation, <i>Antisense &amp; nucleic Acid Drug Development</i> , 7:345-350.	
		ZON, GERALD (1988) Oligonucleotide Analogues as Potential Chemotherapeutic Agents. <i>Pharmaceutical Research</i> , Vol. 5, No. 9, pp. 539-549.	

Examiner Signature		Date Considered	
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<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

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